

**FINDING OF NO SIGNIFICANT IMPACT  
AND DECISION RECORD  
EA-NM-060-03-72**

**DECISION:** It is my decision to authorize the Applications For Permit To Drill Or Deepen (APD), for the Penjack Federal #10 and Penjack Federal #11 gas wells, submitted by Chesapeake Operating Inc.. The provisions for the approval of the APDs will include the attachment of the Roswell Field Office requirements as defined in the following exhibits; **Exhibit A** - Location Map, **Exhibit B** - Well Drilling Requirements, **Exhibit C** - Conditions of Approval, **Exhibit D** - Permanent Resource Road Requirements, and any special mitigating measures developed in the environmental assessment for each well.

In the event the wells proves to be a dry holes, or when the wells are abandoned, I recommend that reclamation requirements be attached to the well abandonments, including additional requirements imperative for the complete reclamation of the disturbed areas. These actions are subject to 43 CFR 3160 regulations for Onshore Oil and Gas operations on federal lease NM-8431.

Authority for these actions is the Mineral Leasing Act of February 25, 1920, as amended.

These actions will affect public land described as:

***New Mexico Principal Meridian***

**Section 12; T. 10 S., R. 25 E.**

**Penjack #10, NE $\frac{1}{4}$ SE $\frac{1}{4}$ , 1980' FSL & 1330' FEL**

**Penjack #11, NW $\frac{1}{4}$ NE $\frac{1}{4}$ , 660' FNL & 1780' FEL**

**FINDING OF NO SIGNIFICANT IMPACT:** Based on the analysis of potential environmental impacts contained in the attached environmental assessment, I have determined that impacts resulting from the proposed actions are not expected to be significant and an environmental impact statement is not required.

**RATIONALE FOR DECISION:** The proposed actions would not result in any undue or unnecessary environmental degradation. Portions of the subject lands and adjacent lands have been used for similar purposes and all present and potential uses and users have been considered.

**COMPLIANCE AND MONITORING:** The construction phase of the proposed actions and subsequent operational phases will be monitored as per regulations.

/s/ Armando A. Lopez

5/27/03

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**Larry D. Bray, Assistant Field Manager,  
Lands and Minerals**

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**Date**

# **ENVIRONMENTAL ASSESSMENT**

EA# NM-060-03-72

**WELL NAME & NO.: Penjack Federal #10 & #11**  
**BLM Serial #: NM-35925**

Section 12, T. 10 S., R. 25 E., NMPM,  
Penjack Federal #10 - 1980' FSL & 1330' FEL, Unit Letter I  
Penjack Federal #11 - 660' FNL & 1780' FEL, Unit Letter B

Chaves County, New Mexico

**OPERATOR: Chesapeake Operating Inc.**

**ACTION:** Applications for Permit to Drill and Notices Of Staking were submitted by Electronic Commerce.

**SURFACE/MINERAL ESTATE:** Federal - Mineral/Surface

## **I. Introduction**

### **A. Need for the Proposed Actions:**

Chesapeake Operating Inc. proposes to drill and complete two (2) natural gas wells at the locations described above. The proposed actions are needed to develop the mineral lease.

### **B. Conformance with Land Use Plan:**

Oil and gas lease development is in conformance with the Roswell Approved Resource Management Plan and Record of Decision, October 1997.

### **C. Relationship to Statutes, Regulations, or other Plans:**

The proposed actions do not conflict with any known State or local planning, ordinance or zoning.

## **II. Proposed Action and Alternatives**

### **A. Proposed Actions:**

Chesapeake Operating Inc. submitted two (2) Notices of Staking on 2/25/03, to drill the Penjack Federal #10 & #11 gas wells. The Applications for Permit to Drill was submitted on 4/28/03.

The proposed actions would include:

1. The proposed road for the Penjack Federal #10 is approximately 961 feet in length and the proposed road for the Penjack Federal #11 is approximately 1412 feet in length and both roads begin from the Dulce County road to the proposed well pads. All of the new access road construction on both wells would cross public lands. The road would have a driving surface (travelway) of 14 feet, with a maximum 30-foot wide surface disturbance area for the road construction. The proposed access road would be constructed and maintained in accordance with the New Mexico Road Policy. A right-of-way is required for the Penjack Federal #11.

The construction of approximately 961 feet of new access road would access the southwest corner of the proposed Penjack Federal #10 well pad and the construction of approximately 1412 feet of new access road would access the southwest corner of the proposed Penjack Federal #11 well pad, both roads would begin from the Dulce County road and all other existing access roads would be maintained in as good or better condition than the roads were existing prior to commencement of operations.

2. The construction of the proposed well pads would be 85 feet long by 238 feet wide. The construction of the reserve pits would be about 80 feet by 70 feet (plus 35' X 70') and dug 4 feet below ground level. The reserve pit on the Penjack Federal #10 would be located on the **north** side of the well pad. The reserve pit on the Penjack Federal #11 would be located on the **east** side of the well pad. Standard oilfield construction equipment consisting of, track-type tractors, motor graders, dump trucks, and water trucks would be used to construct the access roads and well pads. A rotary drilling rig would be used to drill the Penjack Federal #10 well to a depth of 4650 feet and the Penjack Federal #11 well to a depth of 5600 feet. Associated production facilities (e.g., pipeline, separator, storage tanks, etc.) would be installed during the production phase of these wells. Topsoil would be stockpiled for future use over the disturbed areas.

3. Surfacing material (caliche/gravel) needed for the construction of the access roads and well pads could be obtained by the operator from a private pit.

B. Alternatives:

1. Relocate the Proposed Action:

The well locations are determined on the basis of subsurface geologic information and to some extent, by spacing regulations imposed by the New Mexico Oil Conservation District II. No other alternative locations would have significantly fewer impacts than, or have a clear advantage over, the proposed locations. Therefore, the alternative of changing the locations involved in these actions are not analyzed further in this EA.

2. No Action:

Under this alternative, the applications would be rejected. None of the environmental impacts associated with the proposed actions or alternate locations would occur. Additionally, economic benefits of the proposed actions would not be realized, and the existing environment, including the developments in place, would remain unchanged.

### **III. Description of the Affected Environment**

A. General Setting:

The proposed access roads and well pads are located on federal minerals and surface, about 11 miles, **East** of Roswell, N.M.. Historical and present use of the subject land has been limited to livestock grazing and energy development.

B. Rights of Record:

An inspection of the Master Title Plats and other Bureau records revealed the following title information pertaining to valid existing prior rights on the subject land:

- Oil and gas leases: NM-8431 - covers lease actions.
- No federally administered rights-of-way would be affected in the project area.
- No mining claims are recorded within Sec. 12, T. 10 S., R. 25 E., NMPM.

### C. Affected Resources:

The following critical resources have been evaluated and are either not present or are not affected by the proposed action or the alternatives in this EA:

Areas of Critical Environmental Concern (ACEC's)  
 Cultural Resources (03-R-031-B & 03-R-032-A)  
 Farmlands, Prime/Unique  
 Floodplains  
 Native American Religious Concerns  
 Wastes, Hazardous/Solid  
 Wetlands and Riparian Zones  
 Wild & Scenic Rivers  
 Wilderness

#### 1. Air Quality:

The areas of the proposed actions are considered a Class II air quality areas. A Class II area allows moderate amounts of air quality degradation. The primary sources of air pollution are dust from blowing wind on disturbed or exposed soils and exhaust emissions from motorized equipment.

#### 2. Soils:

The *Soil Survey of Chaves County, New Mexico, Southern Part (USDA Soil Conservation Service 1974)* was used to describe and analyze impacts from the proposed action. The soil map units represented in the project area are:

Holloman-Gypsum land complex, 3 to 5 percent slopes. (HrC) For the Holloman soils runoff is medium and the hazards of water erosion and soil blowing are moderate. For Gypsum land runoff is rapid, the hazard of water erosion is moderate and the hazard of soil blowing is severe. This complex consists of 30 percent Holloman loam; 15 percent Holloman loam, thick solum; 35 percent Gypsum land; and 20 percent less extensive soils.

#### 3. Vegetation: MIXED DESERT SHRUB

This lease is within the mixed desert shrub vegetative community as identified in the Roswell Resource Management Plan/Environmental Impact Statement (RMP/EIS). Appendix 11 of the Draft RMP/EIS describes the Desired Plant Community (DPC) concept and identifies the components of each community. The mixed desert shrub community is primarily made up of desert grasses, shrubs and cacti. The predominant shrub species include creosote (*Larrea tridentata*), mesquite (*Prosopis glandulosa*), tarbush (*Flourensia cernua*), four-wing saltbush (*Atriplex canescens*), little leaf sumac (*Rhus microphylla*), and sage (*Artemisia* spp.). Common cacti encountered are claret cup (*Echinocereus triglochidiatus*), cholla (*Opuntia imbricata*), prickly pear (*Opuntia engelmannia*), and eagle claw (*Echinocereus horizonthalonius*). Forbs include plantain (*Plantago* spp.), globemallow (*Sphaeralcea* spp.), and buckwheat (*Eriogonum* spp.). Grasses include fluffgrass (*Dasyochloa pulchella*), sideoats grama

(*Bouteloua curtipendula*), black grama (*Bouteloua eriopoda*), dropseed (*Sporobolus* spp.), galleta (*Pleuraphis jamesii*), burrograss (*Scleropogon brevifolius*), muhly (*Muhlenbergia* spp.), tobosa (*Pleuraphis mutica*) and gyp grama (*Bouteloua breviseta*).

The Ecological Site Description for the proposed well pads and access roads are [Southern Desertic Basins, Plains and Mountains (SD-3) Gyp Upland and Loamy].

#### 4. Invasive & Noxious Weeds:

There are no known populations of invasive or noxious weed species on the roads to the proposed access roads and well pads.

Infestations of noxious weeds can have a disastrous impact on biodiversity and natural ecosystems. Noxious weeds affect native plant species by out-competing native vegetation for light, water, space and soil nutrients. Noxious weeds cause estimated losses to producers \$2 to \$3 billion annually. These losses are attributed to: (1) Decreased quality of agricultural products due to high levels of competition from noxious weeds; (2) decreased quantity of agricultural products due to noxious weed infestations; and (3) costs to control and/or prevent the noxious weeds.

Further, noxious weeds can negatively affect livestock and dairy producers by making forage either unpalatable or toxic to livestock, thus decreasing livestock productivity and potentially increasing producers' feed and animal health care costs. Increased costs to operators are eventually borne by consumers.

Noxious weeds also affect recreational uses, and reduce realty values of both the directly influenced and adjacent properties.

Recent federal legislation has been enacted requiring state and county agencies to implement noxious weed control programs. Monies would be made available for these activities from the federal government, generated from the federal tax base. Therefore, all citizens and taxpayers of the United States are directly affected when noxious weed control prevention is not exercised.

#### 5. Ground Water Quality :

Useable water for irrigation and stock use is obtained from the Quaternary Alluvium and Artesia Group. The casing depths recommended by the NMOCD in this township range from 600 ft to 800 ft. However, some wells in the area have been producing oil in the 650 ft to 750 ft. range. Additionally, shows of oil and dead oil stain with the same depth range recorded. Because of this data casing should be set at a maximum of 600 ft..

#### 6. Wildlife:

Wildlife species utilizing these areas for habitat include mule deer, pronghorn antelope, coyote, fox, rabbits, kangaroo rats, pocket gophers, herptile species, as well as a variety of songbirds, dove, quail, and raptors.

No known special status species (plant/animal) or critical habitats are present within the confines of the access roads and well pads.

There are no known threatened or endangered species of plant or animals within the project area. The list of federal threatened, endangered and candidate species reviewed for this EA can be found in Appendix 11 of the Roswell Approved RMP (AP11-2).

There are no designated critical habitat areas within this allotment. The swift fox is a Federal Candidate species that may occupy or utilize the area; refer to the Biological Opinion (AP11-38) in the Roswell RMP for a detailed description of the range, habitats and potential threats.

The mountain plover has been recently proposed for listing as an Endangered Species. It is associated with shortgrass and shrub-steep landscapes throughout its breeding and wintering range. Historically, on the breeding range, it occurred on nearly denuded prairie dog towns and in areas of major bison concentration. The mountain plover are considered to be strongly associated with sites of heaviest grazing pressure, to the point of excessive surface disturbance. Short vegetation, bare ground, and a flat topography are now recognized as habitat-defining characteristics at both breeding and wintering locales.

The federal candidate black-tailed prairie is also known to occur within the grassland area. However, no localized prairie dog towns are located within the actual project construction site.

7. Range: The access roads and well pads are located on a BLM grazing allotment #65037, permitted to Jack Hagelstein, P.O. Box 297, Dexter, NM 88230.

8. Visual Resources:

The proposed actions are located within a designated VRM Class IV area. The setting presents a winter gray setting and in warm months, with foliage, a gray to gray-green color pattern.

9. Recreation:

The area around the proposed action site is primarily used by recreational visitors engaged in hunting, caving, driving for pleasure, off-highway vehicle use and other recreational activities. Non-recreation visitors include oil and gas industrial workers and ranchers.

10. Cave/Karst:

The proposed action is located in the *High Potential Karst Area*. The southeast corner of the proposed Penjack Federal #10 is located very near the edge of a large sinkhole, 500 feet in diameter by about 40 feet deep. There are three cave entrances located equidistant from each other around the sinkhole edge. The cave trend in each case, however, is toward the sinkhole. The pad is oriented away from the sinkhole. Given the proximity of this type feature, from experience elsewhere, there is a possibility of encountering cave-karst voids during drilling operations, and potential of catastrophic collapse is a developing sink is located below the well site surface.

11. Minority or Low-income Populations or Communities:

The proposed actions would not affect the minority or low-income populations or communities.

#### **IV. ENVIRONMENTAL IMPACTS**

##### **A. Proposed Action Impacts:**

The surface disturbance involved in the construction of the access roads, well pads, and reserve pits would total about 3.0 acres of federal surface.

1. Air Quality:

Air quality would temporary be impacted with pollution from exhaust emissions, chemical odors, and dust that would be caused by the motorized equipment used to construct the access roads, well pads, and by the drilling rig that will be used to drill the wells. Dust dissemination would discontinue upon completion of the construction phase of the access roads and well pads. Air pollution from the motorized equipment would discontinue at the completion of the drilling phase of the operations. The winds that frequent the southeastern part of New Mexico generally disperse the odors and emissions. The impacts to air quality would be greatly reduced as the construction and drilling phases are completed.

2. Soils:

The construction of the access roads, and well pads would physically disturb about 3.0 acres of topsoil and would expose the substratum soils. The exposed soils would be susceptible to wind blowing and water erosion. Surfacing the exposed soils on the access roads and well pads would minimize these impacts. Construction of the reserve pit 4 feet below ground level would impact deeper soil horizons on the well pads. The impact to the soils would be remedied upon reclamation of the well pads when the stockpiled soil that was specifically conserved to establish a seedbed is spread over the well pads and vegetation re-establishes.

Additional soil impacts associated with lease development would occur when heavy precipitation causes water erosion damage. When water saturated segment(s) on the access roads become impassable, vehicles may still be driven over the roads. Consequently, deep tire ruts would develop. Where impassable segments are created from deep rutting, unauthorized driving may occur outside the designated route of the access road. Road construction requirements and regular maintenance would alleviate potential impacts to the access road from water erosion damage.

3. Vegetation:

The construction of the access roads and well pads would remove about 3.0 acres of native vegetation. If the wells are producing, reclamation would not commence until the well have depleted production and are plugged and abandoned. Vegetation recovery on the access roads and well pads would depend on the life of the wells. Native vegetation would encroach on the well pads over time with only high traffic areas remaining devoid of vegetation. If the wells are drilled as a dry hole and plugged, reclamation of the access roads and well pads would immediately follow. Vegetation impacts would be short-term when the access roads and well pads re-vegetate within a few years, and the reclamation of these areas is successful.

4. Invasive & Noxious Weeds:

The construction of an access roads and well pads may unintentionally contribute to the establishment and spread of noxious weeds. Noxious weed seed could be carried to and from the project areas by construction equipment, the drilling rig and transport vehicles. The main mechanism for seed dispersion on the roads and well pads is by equipment and vehicles that were previously used and or driven across or through noxious weed infested areas. The potential for the dissemination of invasive and noxious weed seed may be elevated by the use of construction equipment typically contracted out to companies

that may be from other geographic areas in the region. Washing and decontaminating the equipment prior to transporting onto and exiting the construction areas would minimize this impact.

Impacts by noxious weeds will be minimized due to requirements for the company to eradicate the weeds upon discovery. Multiple applications may be required to effectively control the identified populations.

#### 5. Ground Water Quality:

The use of a plastic-lined reserve pit would reduce or eliminate seepage of drilling fluid into the soil and eventually reaching groundwater. Spills or produced fluids (e.g., saltwater, oil, and/or condensate in the event of a breach, overflow, or spill from storage tanks) could result in contamination of the soils onsite, or offsite, and may potentially impact groundwater resources in the long term. The casing and cementing requirements imposed on the proposed wells would reduce or eliminate the potential for groundwater contamination from drilling muds and other surface sources.

#### 6. Wildlife:

Some small wildlife species may be killed and their dens or nests destroyed during construction of the access roads and well pads. The construction of the access roads and well pads could cause fragmentation of wildlife habitat. The short-term negative impact to wildlife would occur during the construction phase of the operation due to noise and habitat destruction. In general, most wildlife species would become habituated to the new facilities. For other wildlife species with a low tolerance to activities, the operations on the well pad would continue to displace wildlife from the area due to ongoing disturbances such as vehicle traffic and equipment maintenance. The conditions of approval would alleviate most losses of wildlife species, such as; fencing the reserve pits, netting storage tanks, installation or other modifications of cones on separator stacks, and timing stipulations. Upon abandonment of the wells, the areas would revegetate and wildlife would return to previous levels.

A complete discussion on impacts to the swift fox can be found in the appendix of the Roswell RMP. No negative impacts to Black-tailed prairie dogs are anticipated.

Surveys have been conducted in New Mexico for the mountain plover by Lawry Sager in 1995, for the New Mexico Department of Game and Fish (Sager, 1996). No breeding populations were found south of the 34° North Latitude, which generally follows the Chaves/DeBaca County line on the north end of the Roswell Field Office area. However, no birds were reported in either DeBaca or Chaves Countys; only one observation was reported in Lincoln County (near Lon). In addition, mountain plover surveys were conducted in 1998 at BLM selected sites by New Mexico Natural Heritage Program (DeLay & Johnson, 1998). No mountain plovers were observed at the sites. In the proposed rule to list the species, mineral development was listed as a potential threat to this species. "Roads present a direct hazard for a variety of reasons. Mountain plovers nest on nearly level ground (often near roads), adults and chicks often feed on or near roads, and roads may be used as travel corridors by mountain plovers, all of which make plovers susceptible to being killed by vehicles. Chicks and adults are vulnerable to stress caused by human disturbance, and chicks require shading by adults to avoid heat. Because adults may abandon chicks during distraction displays, any human activity that elicits distraction displays is likely to increase the vulnerability of chicks to stress. Thus, development of oil and gas resources could adversely affect mountain plover habitat or cause the death of individuals." However, since the area is not occupied by breeding populations, there is no impact to the young or adults at this time. Habitat may become fragmented with the development of oil and gas facilities but present development in this area is not likely to adversely impact this species.

#### 7. Range:



There would be some minor disruption of livestock grazing in the pasture, specifically on the well pads, during the construction and drilling phase of the wells. Vehicle traffic would increase in these areas, which may lead to conflicts with livestock.

## 8. Visual Resources

Facilities, such as condensate and produced water or oil storage tanks that rise above eight feet, would provide a geometrically strong vertical and horizontal visual contrast in form and line to the characteristic landscape and vegetation, which have flat, horizontal to slightly rolling form and line. The construction of an access roads, well pads and other ancillary facilities, would slightly modify the existing area visual resources. The proposed actions are located in an area designated VRM Class IV.

The objective of Class IV is to: “Provide for management activities which require major modification of the existing landscape character. Every attempt, however, should be made to reduce or eliminate activity impacts through careful location, minimal disturbance, and repeating the basic landscape elements.”

Through color manipulation, by painting well facilities to blend with the rolling to flat vegetative and/or landform setting with a gray-green to brownish color, the view is expected to favorably blend with the form, line, color and texture of the existing landscape. The flat color ***Slate Gray*** from the standard environmental colors also closely approximates the brownish color of the setting. All facilities, including the meter building, would be painted this color.

Cumulative adverse visual impacts can be avoided by gradually moving into a more appropriate vegetative/landform setting color scheme.

## 9. Recreation:

Oil and gas activities would have little or no affect on recreational opportunities within these areas. Large blocks of public land would allow recreationists to use public land and avoid the oil and gas facilities within the areas.

## 10. Cave/Karst:

The proposed action is located in the *High Karst Potential Area*, and the potential of adverse impact to known cave entrances or karst features is present within the project areas. The proposed well pad (southeast corner) of the Penjack Federal #10 is located very near a large sinkhole. The proposed pad is oriented away from the sinkhole. The extent and trend of any cave passage is unknown. A potential exists for occurrence of developing sinks with no surface expression at this time.

## 11. Minority or Low-income Populations or Communities:

The proposed actions would not impact the minority or low-income populations or communities.

### B. Alternatives:

#### 1. Relocation Alternative:

The alternative of changing the locations involved in these actions were not analyzed further because no other alternative locations would have significantly fewer impacts than, or have a clear advantage over, the proposed locations.

## 2. No Action Alternative:

The no action alternative would constitute denial of the applications. This alternative would have no consequential results from the identified environmental impacts. There would, however, be an adverse economic impact to the applicant through the denial of the lessee's right to develop the mineral reserves or through increased costs of accessing those mineral reserves through other means. There have been no significant or unmitigatable impacts identified as a result of this analysis, which would warrant selection of the no action alternative.

## C. Mitigation:

The Roswell Field Office; Well Drilling Requirements (Exhibit B), Conditions of Approval (Exhibit C), Permanent Resource Road Requirements (Exhibit D), and the special requirements derived from this EA, would be applied to the proposed actions to minimize the surface disturbances and conserve the surrounding landscape.

## D. Cumulative Impacts:

While it is likely that there will be no significant cumulative impact from the proposed actions, continued oil and gas development, and other surface-disturbing activities in this area, may potentially have negative cumulative impacts on vegetation, soil, water, livestock, wildlife and visual resources.

## **V. Consultation and Coordination**

An onsite inspection was conducted on the access roads and well pads on. In attendance were Leonard Barrera, Agent for Chesapeake Operating, Inc., and Richard Hill, Environmental Protection Specialist, BLM Roswell Field Office. Coordination and consultation has occurred with the applicant's agent. The comments and suggestions expressed during the onsite consultation have been incorporated into this EA.

Coordination and consultation has occurred with Roswell Field Office's Staff. The comments and suggestions expressed during the review of the proposed actions and environmental assessment have been incorporated into this EA. Roswell Field Office's Staff at on-site: Joseph Navarro, and Dan Baggao.

Reviewed by:

Irene M. Gonzales

03/10/03

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Irene M. Gonzales, Realty Specialist

\_\_\_\_\_  
Date

# EXHIBIT B

1 of 8 pages

## WELL DRILLING REQUIREMENTS

OPERATORS NAME: Chesapeake Operating Inc. LEASE NO.: NM-8431

WELL NAME & NO: Penjack Federal #10

QUARTER/QUARTER & FOOTAGE: NE¼SE¼ - 1980' FSL & 1330' FEL

LOCATION: Section 12, T. 10 S., R. 25 E., NMPM

COUNTY: Chaves County, New Mexico

### I. GENERAL PROVISIONS:

- A. The operator has the right of administrative review of these requirements pursuant to 43 CFR 3165.1(a).
- B. The operator shall hereafter be identified as the holder in these requirements. The Authorized Officer is the person who approves the Well Drilling Requirements.

### II. WELL PAD CONSTRUCTION REQUIREMENTS:

- A. The BLM shall administer compliance and monitor construction of the access road and well pad. Notify Richard G. Hill at least 3 working days (72 Hours) prior to commencing construction of the access road and/or well pad. Roswell Field Office phone number **(505) 627-0247**.
- B. Prior to commencing construction of the access road, well pad, or other associated developments, the holder shall provide the dirt contractor with **a copy of the approved APD signature page, a copy of the location map (EXHIBIT A), a copy of pages 1 & 2 from the Well Drilling Requirements (EXHIBIT B), and a copy of the Permanent Resource Road Requirements (EXHIBIT D).**
- C. The holder shall stockpile the topsoil from the surface of the well pad for reclamation purposes. The topsoil on the Penjack Federal #10 well pad is approximate 2 inches in depth. Approximately 200 cubic yards of topsoil shall be stockpiled on the Southeast corner of the well pad, opposite the reserve pit. Upon reclamation of the well pad, the topsoil stockpile shall be redistributed over the disturbed areas. See Well Drilling Requirements - VI. Seeding Requirements - for reclamation of the well pad.
- D. **Reserve Pit Requirements:**
  - 1. The reserve pit shall be constructed 80' X 70' (plus 35' X 70') on the **North** side of the well pad.
  - 2. The reserve pit shall be constructed four (4) feet below ground level. The reserve pit shall be constructed so that at least one half of the total drilling mud volume is below ground level.

3. The plastic lining that is used to line the reserve pit shall be at least 9 mil in thickness and have a bursting strength of 170 PSI. Upon reclamation of the reserve pit, any exposed plastic lining shall be removed and properly disposed of before the reserve pit is backfilled.
4. The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.
5. The reserve pit shall be constructed so as not to leak, break, or allow discharge of drilling muds. Under no circumstances will the reserve pit be cut to drain drilling muds on the terrain.
6. The reserve pit shall not be located in any natural drainage.
7. The reserve pit shall be equipped to deter entry by birds, bats, other wildlife, and livestock, if the reserve pit contains any oil and/or toxic fluids.
8. Drilling muds shall be properly disposed of before the reserve pit is reclaimed. Drilling muds can be allowed to evaporate in the reserve pit or be removed and transported to an authorized disposal site. The reserve pit shall be backfilled when dry.
9. Dumping of junk or trash into the reserve pit is not allowed. Junk or trash shall be removed from within the reserve pit before the reserve pit is reclaimed. **Junk or trash shall not be buried in the reserve pit.**

**E. Federal Mineral Materials Pit Requirements:**

1. Caliche, gravel, or other related materials from new or existing pits on Federal mineral estate shall not be taken without prior approval from the authorized officer. Contact Jerry Dutchover at (505) 627 - 0236.
2. Payment for any Federal mineral materials that will be used to surface the access road and the well pad is required prior to removal of the mineral materials.

**F. Well Pad Surfacing Requirement:**

The well pad shall be surfaced with 6 inches of compacted caliche, gravel, or other approved surfacing material. The well pad shall be surfaced prior to drilling operations. **See Permanent Resource Road Requirements - EXHIBIT D - requirement #4, for road surfacing.**

**G. Cave Requirements:**

1. If, during any construction activities any sinkholes or cave openings are discovered, all construction activities shall immediately cease. Contact **Larry Bray** at **(505) 627-0250**.
2. The BLM Authorized Officer will, within 24 hours of notification in "A" above, conduct an on-the-ground field inspection for karst. At the field inspection the authorized field inspector will authorize or suggest mitigating measures to lessen the damage to the karst environment. A verbal order to proceed or stop the operation will be issued at that time.

**III. DRILLING OPERATION REQUIREMENTS:**

**A. GENERAL DRILLING REQUIREMENTS:**

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell NM 88201, (505) 627-0272 in sufficient time for a representative to witness:

A. Spudding B. Cementing casing: 8e inch 4½ inch C. BOP tests

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing ( size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

4. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

**B. CASING:**

1. The 8e inch surface casing shall be set at 600 feet and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 4½ inch production casing is **cement shall extend upward a minimum of 500 feet above the uppermost perforation.**

**C. PRESSURE CONTROL:**

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 8e inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **2000** psi.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the BOP tests.

A. The results of the test shall be reported to the appropriate BLM office.

B. Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.

C. Testing must be done in a safe workman-like manner. Hard line connections shall be required.

**IV. DOWN HOLE ABANDONMENT REQUIREMENTS:**

A. If the well is a dry hole and will be plugged, approval of the proposed plugging program may be obtained orally. However, oral approval must be confirmed in writing by immediately filing a Sundry Notice And Report On Wells (Form 3160-5) "**Notice of Intention to Abandon**", and submitting an original and five (5) copies to the Roswell Field Office. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where plugs are to be placed, type of plug, type of plugging mud, etc..

B. If the well is not drilled, please notify the BLM so that an official release can be approved.

**V. SURFACE RECLAMATION/RESTORATION REQUIREMENTS:**

A. When the well is abandoned the "**Notice of Intention to Abandon**" (Form 3160-5) could also be used by the holder as the initial report for the surface reclamation/restoration of the access road and well pad. Upon receipt of the "NOI" the Authorized Officer shall provide the holder with the specific requirements for the reclamation/restoration of the access road and well pad.

B. **Subsequent Report Of Abandonment:** The holder shall submit a second report on Form 3160-5, Sundry Notice and Report On Wells, the original and five (5) copies to the Roswell Field Office, pertaining to the reclamation/restoration of the access road and well pad. The holder shall demonstrate that the surface reclamation/restoration requirements have been complied with. The holder shall specify that the reclamation work accomplished the restoration of the disturbed areas to as near the original surface condition the land was in prior to construction of the access road and well pad.

C. **Final Abandonment Notice:** The holder shall submit a third report on Form 3160-5, Sundry Notice and Report On Wells, the original and five (5) copies to the Roswell Field Office, that will ascertain that all surface reclamation/restoration requirements have finally been completed and that the access road and well pad are ready for final inspection. The holder shall specify that the surface has been reclaimed in accordance with federal regulations and request final approval of the access road and well pad.

D. The holder shall comply with all the surface reclamation/restoration required by the Authorized Officer pertaining to the reclamation/restoration of the access road and well pad. Liability under bond shall be retained until surface reclamation/restoration of the access road and well pad has been completed to the satisfaction of the Authorized Officer.

**VI. SEEDING REQUIREMENTS:**

A. The stockpile of topsoil shall be spread over the well pad to cultivate a seedbed. The holder shall not mix the topsoil with the reserve pit area soil. The mixing of the soils will render the conservation of the topsoil for reclamation purposes pointless, if the topsoil is contaminated with the reserve pit mud soils.

B. The reclaimed area(s) shall be seeded with the seed mixture that was determined by the Roswell Field Office for the Desired Plant Community on this well site.

C. The same seed mixture shall be used on the reclaimed access road; See **PERMANENT RESOURCE ROAD REQUIREMENT #12.**

**WELL DRILLING REQUIREMENTS**

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D. The planting of the seed shall be done in accordance with the following seeding requirements:

1. **The access road and well pad shall be ripped a minimum of 16 inches deep.** The topsoil soil shall be plowed under with soil turning equipment and the plowed surface shall be disked before seeding. Seed shall be planted using a drill equipped planter with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area. Smaller/heavier seed has a tendency to drop to the bottom of the drill and are planted first, the holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre noted below are to be doubled.
2. The holder shall seed all the disturbed areas with the DPC seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed per acre, (Pounds of pure live seed per acre: pounds of seed X percent purity X percent germination = pounds pure live seed). There shall be no primary or secondary noxious weeds in the seed mixture.

In accordance with State law(s) the seed should be tested for purity and viability within nine (9) months prior to sell. Commercial seed shall be either certified or registered seed. The seed mixture container shall be tagged in accordance with State law(s) and the certified seed tag shall be made available for inspection by the Authorized Officer.

3. Desired Plant Community seed mixture to be planted in pounds of pure live seed per acre:

Common Name and Preferred Variety	Scientific Name	Pounds of Pure Live Seed Per Acre
Blue grama, var. Lovington	<i>(Bouteloua gracilis)</i>	4.00 Lbs.
Sideoats grama, Var. Vaughn or El Reno	<i>(Bouteloua curtipendula)</i>	1.00 Lb.
Sand dropseed	<i>(Sporobolus cryptandrus)</i>	0.50 Lb.
Vine mesquite	<i>(Panicum obtusum)</i>	1.00 Lb.
Plains bristlegrass	<i>(Setaria vulpesita)</i>	1.00 Lb.
Indian blanketflower	<i>(Gaillardia aristata)</i>	0.50 Lb.
Desert or Scarlet	<i>(Sphaeralcea ambigua)</i>	
Globemallow	or <i>(S. coccinea)</i>	1.00 Lb.
Total Pounds Pure Live Seed Per Acre		9.00 Lbs.

**If one species is not available, increase ALL others proportionately. Certified Weed Free Seed. A minimum of 4 species is required, including 1 forb species.**

E. The recommended time to seed is from June 15<sup>th</sup> through September 15<sup>th</sup>. The optimum seeding time is in mid-July. Successive seeding should be done either late in the fall (Sept. 15<sup>th</sup> - Nov. 15<sup>th</sup>, before freeze up) or early as possible the following spring to take advantage of available ground moisture. However, the holder may seed immediately after completing surface abandonment requirements.

- F. The seeding of the disturbed areas shall be repeated until a vegetation thicket is established on the access road and well pad. The Authorized Officer shall make the determination when the regrowth on the disturbed area is satisfactory.

## **WELL DRILLING REQUIREMENTS**

**6 of 8 pages**

G. The holder shall be responsible for the establishment of vegetation on the access road and well pad. Evaluation of vegetative growth will not be made before the completion of the first growing season after seeding. The Authorized Officer reserves the right to require reseeding at a specific time if seed does not germinate after one growing season. Waiver of this requirement would be considered if diligent attempts to revegetate the disturbed areas have failed and the Authorized Officer determines that further attempts to replant the access road and well pad is futile.

**H. Contact Richard G. Hill at (505) 627-0247 to witness the seeding operations, two (2) days prior to seeding the disturbed areas.**

## **VII. Invasive and Noxious Weeds Requirement:**

A. The holder shall be held responsible should the establishment of noxious weeds began to grow on the access road and well pad. Evaluation of growth of the noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land resulting from this action, which includes the roads, pads, associated pipelines and adjacent land affected by the establishment of weeds.

B. The holder shall insure that the equipment and/or vehicles that will be used to construct the access road and/or well pad are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and/or vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds and the probability that the equipment and/or vehicles are carriers of noxious weed seed from the conduct of previous projects in noxious weed infested areas, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.

## **VIII. ON LEASE - WELL REQUIREMENTS:**

A. The holder shall post signs identifying the location permitted herein with the requirements contained in Onshore Oil and Gas Order #1 and 43 CFR 3162.6.

B. The following data is required on the well sign that shall be posted in a conspicuous place on the well pad. The sign shall be kept up with current identification and shall be legible for as long as the well is in existence:

Operator Name: Chesapeake Operating Inc.

Well Name & No.: Penjack Federal #10

Lease No.: NM-8431

Footage: 1980' FSL & 1330' FEL

Location: Section 12, T. 10 S., R. 25 E.

**D. UPON ABANDONMENT OF THE WELL, THE SAME INFORMATION SHALL BE INSCRIBED ON THE DRY HOLE MARKER WITH A BEADED WELD.**



D. The approval of the APD does not in any way imply or grant approval of any on-lease, off-lease, or off-unit action(s). It is the responsibility of the holder to obtain other approval(s) such as rights-of-way from the Roswell Field Office or other agencies, including private surface landowner(s).

E. All vehicles, including caterpillar track-type tractors, motor graders, off-highway trucks and any other type of motorized equipment that is used in the construction of the access road and well pad shall be confined to the area(s) herein approved. The drilling rig that is used to drill the well shall also be confined to the approved area(s).

**F. Containment Structure Requirement:**

1. A containment structure or earthen dike shall be constructed and maintained around all storage facilities/batteries. The containment structure or earthen dike shall surround the storage facilities/batteries.
2. The containment structure or earthen dike shall be constructed two (2) feet high around the facilities/batteries (the containment structure or earthen dike can be constructed higher than the two (2) feet high minimum).
3. The perimeter of the containment structure or earthen dike can be constructed substantial larger for greater holding capacity of the contents of the largest tank.
4. The containment structure or earthen dike shall be constructed so that in case of a spill the structure can contain the entire contents of the largest tank, plus 24 hour production, within the containment structure or earthen dike, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

**G. Well Completion Requirement:**

If the well is completed, all areas of the well pad not necessary for operations shall be reclaimed to resemble the original contours of the surrounding terrain. Cut-and-fill slopes shall be re-contoured and reduced to a slope of 3:1 or less.

**H. Painting Requirement:**

All above-ground structures (e.g.: meter houses, tanks, above ground pipelines, and related appurtenance, etc.) not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for painting all the well facilities is Slate Gray, Munsell Soil Color Chart Number 5Y 6/1.

**I. Fence Requirement:**

The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair impacted improvements to at least their former state. On private surface the holder shall contact the owner of any improvements prior to disturbing them. When

**WELL DRILLING REQUIREMENTS**

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necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates shall be allowed unless approved by the Authorized Officer.

**J. Open-vent Exhaust Stack Requirements:**

1. All open-vent exhaust stacks associated with heater-treater, separators and dehydrator units shall be modified to prevent birds and bats from entering them and to the extent practical to discourage perching and nesting.
2. New production equipment installed on federal leases after November 1<sup>st</sup>, 1993, shall have the open-vent exhaust stacks constructed to prevent the entry of birds and bats and to the extent practical, to discourage perching, and nesting.

**IX. SPECIAL REQUIREMENT(S): none**

# EXHIBIT C

1 of 3 pages

## CONDITIONS OF APPROVAL

OPERATOR: Chesapeake Operating Inc.

LEASE NO: NM-8431

WELL NAME & NO.: Penjack Federal #10

LOCATION: Section 12 T. 10 S., R. 25 E., N.M.P.M.

QUARTER/QUARTER & FOOTAGE: NE¼SE¼ - 1980' FSL & 1330' FEL

COUNTY: Chaves County, New Mexico

### GENERAL CONDITIONS OF APPROVAL:

1. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Conditions Of Approval.
2. The holder shall indemnify the United States against any liability for damage to life or property arising from occupancy or use of public land under this authorization.
3. The holder shall have surface use approval prior to any construction work on change(s) or modification(s) to the access road and/or well pad. The holder shall submit (Form 3160-5), Sundry Notice and Report On Wells, an original plus one (1) copy to the Roswell Field Office, stating the basis for any changes to previously approved plans. Prior to any revised construction the holder shall have an approved Sundry Notice and Report On Wells or written authorization to proceed with the change in plans ratified by the Authorized Officer.

#### 4. **Weed Control:**

The holder shall be responsible for weed control on disturbed areas within the limits of the site. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

#### 5. **Hazardous Substances:**

- a. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act Of 1976, as amended (15 U.S.C. 2601, *et. seg.*) with regard to any toxic substances that are used, generated by or stored on the project/pipeline route or on facilities authorized. (See 40 CFR, Part 702-

799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response,

## **CONDITIONS OF APPROVAL**

**2 of 3 pages**

Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

b. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substances or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seg.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seg.*) on this project/pipeline (unless the release or threatened release is wholly unrelated to the holder's activity on the pipeline). This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated third parties.

### **6. Undesirable Events:**

If, during any phase of the construction, operation, maintenance, or termination of the authorization, any oil or other pollutants, should be discharged, and impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutants, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

### **7. Archaeological, Paleontology, and Historical Sites:**

a. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder shall be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

b. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of the project work, the holder shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The holder or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes. Any

unauthorized collection or disturbance of cultural resources may result in a shutdown order by the Authorized Officer.

## **CONDITIONS OF APPROVAL**

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### **8. Sanitation:**

The holder shall be responsible for maintaining the site in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

**9. Open-top Tanks:** Any open-top tank containing oil and/or toxic fluids shall be covered with netting or equipped to prevent birds, bats, and other wildlife from entering the open-top tank.

### **10. Other:**

1. Due to the close proximity of a sinkhole, a containment structure or earthen dike shall be constructed and maintained around the east, north, west, and south sides of the well pad. The containment structure or earthen dike shall be constructed two (2) feet high around the well pads outer boundaries. (the containment structure or earthen dike can be constructed higher than the two (2) feet high minimum).

# EXHIBIT D

1 of 7 pages

## PERMANENT RESOURCE ROAD REQUIREMENTS

Operator: Chesapeake Operating Inc.

BLM Serial Number: NM-8431

Well Name & NO: Penjack Federal #10

Location: Section 12, T. 10 S., R. 25 E.

1980' FSL & 1330' FEL, Chaves County, N.M.

The holder agrees to comply with the following requirements:

### 1. GENERAL REQUIREMENTS:

- A. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Permanent Resource Road Requirements.
- B. The holder shall minimize any disturbance to structures on public domain surface. Damages caused to any structure during road construction operations shall be promptly repaired by the holder. Functional use of any structure shall be maintained at all times. The holder shall make a documented good-faith effort to contact the owner prior to disturbing any structure.
- C. When necessary to pass through an existing fence line, the fence shall be braced on both sides of the passageway prior to cutting and the fence shall be promptly repaired to at least it's former state or to a higher standard than it was previously constructed.
- D. A professional engineer shall design the access road if the road grade exceeds 10 percent slope.

### 2. INGRESS AND EGRESS:

The access road shall be constructed to access the well pad on the **Southwest** corner of the well pad to comply with the planned access road route.

### 3. ROAD TRAVELWAY WIDTH:

The travelway of the road shall be constructed 14 feet wide. The maximum width of surface disturbance shall not exceed 30 feet of road construction. The specified travelway width is 14 feet for all road travelway surfaces unless the Authorized Officer approves a different width.

#### 4. SURFACING:

##### PERMANENT RESOURCE ROAD REQUIREMENTS

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Beginning from the dedicated road, the entire length of the access road travelway shall be surfaced prior to drilling operations.

**The access road travelway shall be surfaced** with caliche or gravel material. If other surfacing material is used, the new type of material shall be approved by the Authorized Officer. The travelway of the road shall be surfaced with **caliche** material. The caliche material shall be compacted to a minimum thickness of **6** inches for the entire length of the travelway surface on the access road. The width of surfacing shall not be less than 14 feet of travelway surface. Prior to using any mineral materials from an existing federal pit, authorization must first be obtained from the Authorized Officer.

#### 5. CROWNING AND DITCHING:

Crowning with materials on site and ditching on one side of the road, on the uphill side, shall be required. The road cross section shall conform to the cross section diagrams in Figure 1 (attached page 6). Where conditions dictate, ditching is required on both sides of the road. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road).

#### 6. DRAINAGE: **No lead-off ditches are required for this road.**

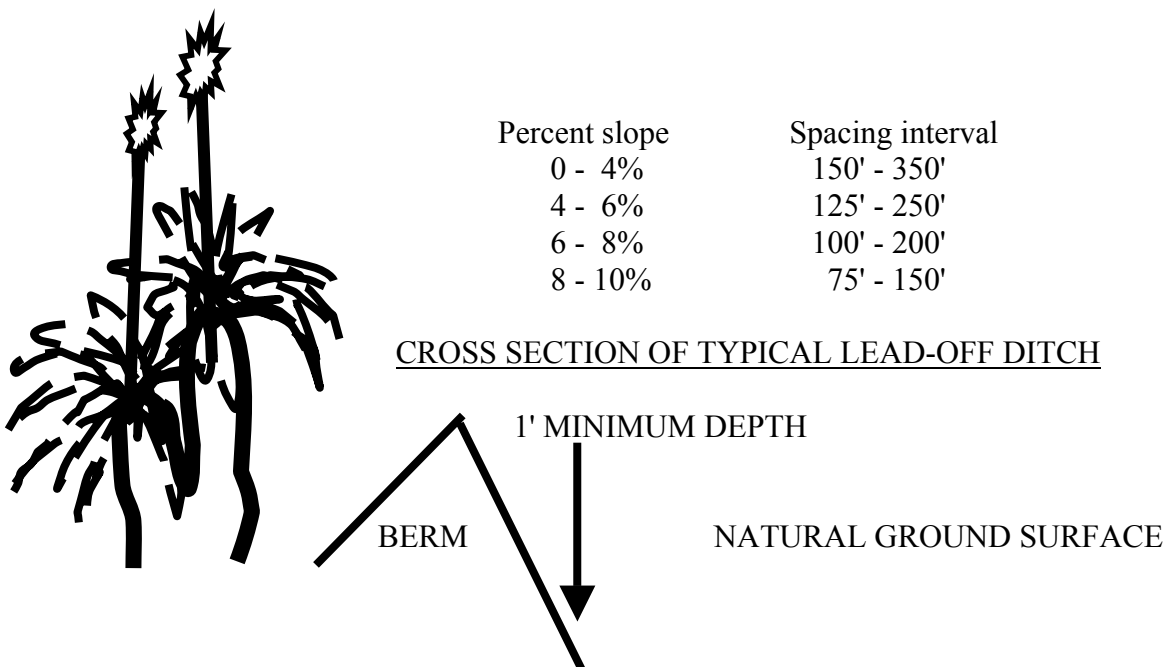
A. Drainage control shall be ensured over the entire road through the construction of ditches, sidehill outcropping and insloping, lead-off ditches, culvert installation, and low water crossings.

- a. All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval for lead-off ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in %):

##### PERCENT SLOPE AND SPACING INTERVALS FOR LEAD-OFF DITCHES:

Percent slope	Spacing interval
0 - 4%	150' - 350'
4 - 6%	125' - 250'
6 - 8%	100' - 200'
8 - 10%	75' - 150'

##### CROSS SECTION OF TYPICAL LEAD-OFF DITCH



## PERMANENT RESOURCE ROAD REQUIREMENTS

3 of 7 pages

C. A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

D. On road slopes exceeding 2%, water flow shall drain water into an adjacent lead-off ditch. Water flow drainage location and spacing shall be determined by the following formula:

FORMULA FOR SPACING INTERVAL OF LEAD-OFF DITCHES:

$$\text{spacing interval} = \frac{400'}{\text{road slope in \%}} + 100'$$

Ex. 4% slope:      spacing interval =  $\frac{400}{4} + 100 = 200$  feet

### 7. CULVERT INSTALLATION:

**No culverts are required on this road.**

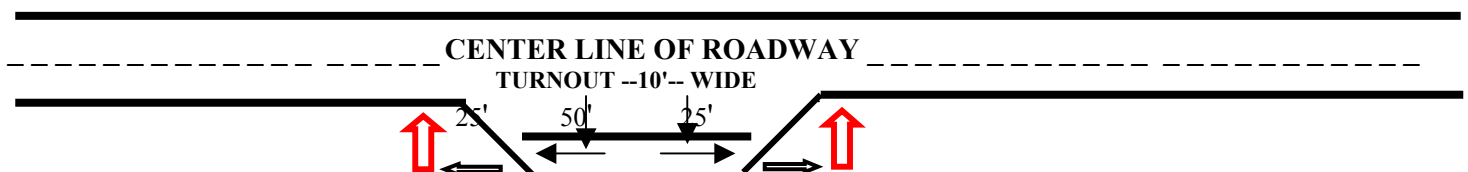
Culvert pipes shall be used where ravines, arroyo gullies, and deep waterway channel flows are crossed by the access road construction route. The culvert(s) shall not be less than XX inches in diameter (minimum 18 inch culvert). The location for the culvert installation is designated on the attached map - **EXHIBIT A**. (A culvert pipe installation diagram shall be attached to this requirement when a culvert is required to be installed, see EXHIBIT - X).

### 8. TURNOUTS:

**No Turnouts Are Required On This Road.**

Vehicle turnouts shall be constructed on all single lane roads (unless the Authorized Officer determines that the turnouts are not required). Turnouts shall be intervisible and shall be constructed on all blind curves with additional turnouts as needed to keep spacing below 1000 feet. Turnouts shall conform to the following diagram:

STANDARD TURNOUT - PLAN VIEW



### 9. CATTLEGUARDS:

**NONE REQUIRED**



**A cattleguard installation diagram shall be attached to this stipulation when a cattleguard is required to be installed - see EXHIBIT X - DIAGRAM A & B).**

## **PERMANENT RESOURCE ROAD REQUIREMENTS**

**4 of 7 pages**

Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads, (exceeding H-20 loading,) are anticipated. (See BLM standard drawings for cattleguards). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user.

### **10. MAINTENANCE:**

A. The holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation, culvert cleaning, cattleguard maintenance, surfacing, and weed control.

B. The holder shall cooperate with other authorized users in maintenance of the road(s). Failure of the holder to share maintenance costs in dollars, equipment, materials, and manpower proportionate to the holders use with other authorized users may be adequate grounds to terminate the road use. The determination as to whether maintenance expenditures have been withheld by the holder and the decision to terminate the road use shall be at the discretion of the Authorized Officer. Upon request, the Authorized Officer shall be provided with copies of any maintenance agreements entered into by the holder.

### **11. PUBLIC ACCESS:**

A. Public access on this road shall not be restricted by the holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public land shall not be locked or closed to public use unless closure is absolutely necessary and is authorized in writing by the Authorized Officer.

### **12. ROAD REHABILITATION REQUIREMENTS:**

A. **The access road shall be ripped a minimum of 16 inches deep.** The surface material on the road may be removed and re-used in other approved area(s). Surfacing material left in place shall be plowed under with soil turning equipment and the plowed surface shall be disked before seeding. All culverts and other road structures shall be removed. All over-burden material shall be replaced in the cut areas, ditches, lead-off ditches, and any other excavated earthwork shall be back filled. The road shall be recontoured to as near it's original topography, as possible.

B. An earthen berm shall be constructed at the entrance of the road to prevent vehicular traffic on the reclaimed road.

C. The reclaimed road shall be seeded with the following **DPC seed mixture** (the Roswell Field Office has determined the Desired Plant Community seed mixture for the reclaimed area(s)):

**SEE EXHIBIT B - WELL DRILLING REQUIREMENTS - VI. SEEDING REQUIREMENTS -  
FOR THE DESIRED PLANT COMMUNITY SEED MIXTURE THAT SHALL BE USED ON  
THE RECLAIMED ACCESS ROAD.**

**PERMANENT RESOURCE ROAD REQUIREMENTS**

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D. The seed and any fertilizer involved shall be broadcast over the roadbed with a spreader, than harrowed to cover the seed. Use of a seed drill planter to plant is acceptable. Appropriate measures shall be taken to ensure that the seed/fertilizer mixture is evenly and uniformly applied. There shall be no primary or secondary noxious weeds in the seed mixture. In accordance with State law(s) the seed should be tested for purity and viability within nine (9) months prior to sell. Commercial seed shall be either certified or registered and the seed mixture container shall be tagged in accordance with State law(s). The seed mixture tag shall be made available to the Authorized Officer for inspection. The seeding shall be repeated until a satisfactory vegetation thicket is established and this determination shall be made by the Authorized Officer. Evaluation of plant growth will not be made before the first growing season.

E. Seeding shall be done between June 15<sup>th</sup> through September 15<sup>th</sup>. However, the holder can seed the road immediately after preparing the road bed.

F. The Authorized Officer reserves the right to require reseeding at a specific time if seed does not germinate after one (1) growing season. Waiver of this requirement would be considered if diligent attempts to revegetate the road has repeatedly failed and the Authorized Officer determines that further attempts to revegetate the road would be futile.

G. **Contact Richard G. Hill at (505) 627-0247 to witness the seeding operations two (2) days before the start of the seeding process.**

**13. SPECIAL REQUIREMENT(S): NONE**

# EXHIBIT B

1 of 8 pages

## WELL DRILLING REQUIREMENTS

OPERATORS NAME: Chesapeake Operating Inc. LEASE NO.: NM-8431  
WELL NAME & NO: Penjack Federal #11  
QUARTER/QUARTER & FOOTAGE: NW¼NE¼ - 660' FNL & 1780' FEL  
LOCATION: Section 12, T. 10 S., R. 25 E., NMPM  
COUNTY: Chaves County, New Mexico

### I. GENERAL PROVISIONS:

- A. The operator has the right of administrative review of these requirements pursuant to 43 CFR 3165.1(a).
- B. The operator shall hereafter be identified as the holder in these requirements. The Authorized Officer is the person who approves the Well Drilling Requirements.

### II. WELL PAD CONSTRUCTION REQUIREMENTS:

- A. The BLM shall administer compliance and monitor construction of the access road and well pad. Notify Richard G. Hill at least 3 working days (72 Hours) prior to commencing construction of the access road and/or well pad. Roswell Field Office number **(505) 627-0247**.
- B. Prior to commencing construction of the access road, well pad, or other associated developments, the holder shall provide the dirt contractor with **a copy of the approved APD signature page, a copy of the location map (EXHIBIT A), a copy of pages 1 & 2 from the Well Drilling Requirements (EXHIBIT B), and a copy of the Permanent Resource Road Requirements (EXHIBIT D).**
- C. The holder shall stockpile the topsoil from the surface of the well pad for reclamation purposes. The topsoil on the Penjack Federal #11 well pad is approximate 6 inches in depth. Approximately 800 cubic yards of topsoil shall be stockpiled on the Northwest corner of the well pad, opposite the reserve pit. Upon reclamation of the well pad, the topsoil stockpile shall be redistributed over the disturbed areas. See Well Drilling Requirements - VI. Seeding Requirements - for reclamation of the well pad.

#### D. **Reserve Pit Requirements:**

- 1. The reserve pit shall be constructed 80' X 70' (plus 35' X 70') ' on the **East** side of the well pad.
- 2. The reserve pit shall be constructed four (4) feet below ground level. The reserve pit shall be constructed so that at least one half of the total drilling mud volume is below ground level.

3. The plastic lining that is used to line the reserve pit shall be at least 9 mil in thickness and have a bursting strength of 170 PSI. Upon reclamation of the reserve pit, any exposed plastic lining shall be removed and properly disposed of before the reserve pit is backfilled.
4. The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

## WELL DRILLING REQUIREMENTS

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5. The reserve pit shall be constructed so as not to leak, break, or allow discharge of drilling muds. Under no circumstances will the reserve pit be cut to drain drilling muds on the terrain.
6. The reserve pit shall not be located in any natural drainage.
7. The reserve pit shall be equipped to deter entry by birds, bats, other wildlife, and livestock, if the reserve pit contains any oil and/or toxic fluids.
8. Drilling muds shall be properly disposed of before the reserve pit is reclaimed. Drilling muds can be allowed to evaporate in the reserve pit or be removed and transported to an authorized disposal site. The reserve pit shall be backfilled when dry.
9. Dumping of junk or trash into the reserve pit is not allowed. Junk or trash shall be removed from within the reserve pit before the reserve pit is reclaimed. **Junk or trash shall not be buried in the reserve pit.**

### E. Federal Mineral Materials Pit Requirements:

1. Caliche, gravel, or other related materials from new or existing pits on Federal mineral estate shall not be taken without prior approval from the authorized officer. Contact Jerry Dutchover at (505) 627 - 0236.
2. Payment for any Federal mineral materials that will be used to surface the access road and the well pad is required prior to removal of the mineral materials.

### F. Well Pad Surfacing Requirement:

The well pad shall be surfaced with 6 inches of compacted caliche, gravel, or other approved surfacing material. The well pad shall be surfaced prior to drilling operations. **See Permanent Resource Road Requirements - EXHIBIT D - requirement #4, for road surfacing.**

### G. Cave Requirements:

1. If, during any construction activities any sinkholes or cave openings are discovered, all construction activities shall immediately cease. Contact **Larry Bray** at (505) 627-0250.
2. The BLM Authorized Officer will, within 24 hours of notification in "A" above, conduct an on-the-ground field inspection for karst. At the field inspection the authorized field inspector will authorize or

suggest mitigating measures to lessen the damage to the karst environment. A verbal order to proceed or stop the operation will be issued at that time.

## **WELL DRILLING REQUIREMENTS**

**3 of 8 pages**

### **III. DRILLING OPERATION REQUIREMENTS:**

#### **A. GENERAL DRILLING REQUIREMENTS:**

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell NM 88201, (505) 627-0272 in sufficient time for a representative to witness:

A. Spudding    B. Cementing casing: 8 $\frac{3}{4}$  inch 5 $\frac{1}{2}$  inch    C. BOP tests

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing ( size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

4. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

#### **B. CASING:**

1. The 8 $\frac{3}{4}$  inch surface casing shall be set at 600' and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 5 $\frac{1}{2}$  inch production casing shall extend upward a minimum of 500' above the uppermost perforation.

#### **C. PRESSURE CONTROL:**

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 8 $\frac{3}{4}$  inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 3000 psi.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.

E. The tests shall be done by an independent service company.

F. The results of the test shall be reported to the appropriate BLM office.

G. Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.

H. Testing must be done in a safe workman-like manner. Hard line connections shall be required.

I. BOPE shall be tested before drilling into the Wolfcamp formation.

#### **D. DRILLING MUD:**

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **WOLFCAMP** formation, and shall be used until production casing is run and cemented. Monitoring equipment shall consist of the following:

- J. Recording pit level indicator to indicate volume gains and losses.
- K. Mud measuring device for accurately determining the mud volumes necessary to fill the hole during trips.
- L. Flow-sensor on the flow-line to warn of abnormal mud returns from the well.

## **WELL DRILLING REQUIREMENTS**

**4 of 8 pages**

### **IV. DOWN HOLE ABANDONMENT REQUIREMENTS:**

A. If the well is a dry hole and will be plugged, approval of the proposed plugging program may be obtained orally. However, oral approval must be confirmed in writing by immediately filing a Sundry Notice And Report On Wells (Form 3160-5) "**Notice of Intention to Abandon**", and submitting an original and five (5) copies to the Roswell Field Office. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where plugs are to be placed, type of plug, type of plugging mud, etc..

B. If the well is not drilled, please notify the BLM so that an official release can be approved.

### **V. SURFACE RECLAMATION/RESTORATION REQUIREMENTS:**

A. When the well is abandoned the "**Notice of Intention to Abandon**" (Form 3160-5) could also be used by the holder as the initial report for the surface reclamation/restoration of the access road and well pad. Upon receipt of the "NOI" the Authorized Officer shall provide the holder with the specific requirements for the reclamation/restoration of the access road and well pad.

B. **Subsequent Report Of Abandonment:** The holder shall submit a second report on Form 3160-5, Sundry Notice and Report On Wells, the original and five (5) copies to the Roswell Field Office, pertaining to the reclamation/restoration of the access road and well pad. The holder shall demonstrate that the surface reclamation/restoration requirements have been complied with. The holder shall specify that the reclamation work accomplished the restoration of the disturbed areas to as near the original surface condition the land was in prior to construction of the access road and well pad.

C. **Final Abandonment Notice:** The holder shall submit a third report on Form 3160-5, Sundry Notice and Report On Wells, the original and five (5) copies to the Roswell Field Office, that will ascertain that all surface reclamation/restoration requirements have finally been completed and that the access road and well pad are ready for final inspection. The holder shall specify that the surface has been reclaimed in accordance with federal regulations and request final approval of the access road and well pad.

D. The holder shall comply with all the surface reclamation/restoration required by the Authorized Officer pertaining to the reclamation/restoration of the access road and well pad. Liability under bond shall be retained until surface reclamation/restoration of the access road and well pad has been completed to the satisfaction of the Authorized Officer.

### **VI. SEEDING REQUIREMENTS:**

A. The stockpile of topsoil shall be spread over the well pad to cultivate a seedbed. The holder shall not mix the topsoil with the reserve pit area soil. The mixing of the soils will render the conservation of the topsoil for reclamation purposes pointless, if the topsoil is contaminated with the reserve pit mud soils.

B. The reclaimed area(s) shall be seeded with the seed mixture that was determined by the Roswell Field Office for the Desired Plant Community on this well site.

D. The same seed mixture shall be used on the reclaimed access road; **See PERMANENT RESOURCE ROAD REQUIREMENT #12.**

## WELL DRILLING REQUIREMENTS

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D. The planting of the seed shall be done in accordance with the following seeding requirements:

1. **The access road and well pad shall be ripped a minimum of 16 inches deep.** The topsoil soil shall be plowed under with soil turning equipment and the plowed surface shall be disked before seeding. Seed shall be planted using a drill equipped planter with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area. Smaller/heavier seed has a tendency to drop to the bottom of the drill and is planted first, the holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre noted below are to be doubled.

2. The holder shall seed all the disturbed areas with the DPC seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed per acre, (Pounds of pure live seed per acre: pounds of seed X percent purity X percent germination = pounds pure live seed). There shall be no primary or secondary noxious weeds in the seed mixture.

In accordance with State law(s) the seed should be tested for purity and viability within nine (9) months prior to sell. Commercial seed shall be either certified or registered seed. The seed mixture container shall be tagged in accordance with State law(s) and the certified seed tag shall be made available for inspection by the Authorized Officer.

3. Desired Plant Community seed mixture to be planted in pounds of pure live seed per acre:

Common Name and Preferred Variety	Scientific Name	Pounds of Pure Live Seed Per Acre
Blue grama, var. Lovington	( <i>Bouteloua gracilis</i> )	4.00 Lbs.
Sideoats grama, Var. Vaughn or El Reno	( <i>Bouteloua curtipendula</i> )	1.00 Lb.
Sand dropseed	( <i>Sporobolus cryptandrus</i> )	0.50 Lb.
Vine mesquite	( <i>Panicum obtusum</i> )	1.00 Lb.
Plains bristlegrass	( <i>Setaria vulpesita</i> )	1.00 Lb.
Indian blanketflower	( <i>Gaillardia aristata</i> )	0.50 Lb.
Desert or Scarlet	( <i>Sphaeralcea ambigua</i> )	
Globemallow	or ( <i>S. coccinea</i> )	1.00 Lb.
Total Pounds Pure Live Seed Per Acre		9.00 Lbs.

**If one species is not available, increase ALL others proportionately. Certified Weed Free Seed. A minimum of 4 species is required, including 1 forb species.**

E. The recommended time to seed is from June 15<sup>th</sup> through September 15<sup>th</sup>. The optimum seeding time is in mid-July. Successive seeding should be done either late in the fall (Sept. 15<sup>th</sup> - Nov. 15<sup>th</sup>, before freeze up) or early as possible the following spring to take advantage of available ground moisture. However, the holder may seed immediately after completing surface abandonment requirements.

## **WELL DRILLING REQUIREMENTS**

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F. The seeding of the disturbed areas shall be repeated until a vegetation thicket is established on the access road and well pad. The Authorized Officer shall make the determination when the vegetative regrowth on the disturbed area is satisfactory.

G. The holder shall be responsible for the establishment of vegetation on the access road and well pad. Evaluation of vegetation growth will not be made before the completion of the first growing season after seeding. The Authorized Officer reserves the right to require reseeding at a specific time if seed does not germinate after one growing season. Waiver of this requirement would be considered if diligent attempts to revegetate the disturbed areas have failed and the Authorized Officer determines that further attempts to replant the access road and well pad is futile.

**H. Contact Richard G. Hill at (505) 627-0247 to witness the seeding operations, two (2) days prior to seeding the disturbed areas.**

## **VII. Invasive and Noxious Weeds Requirement:**

A. The holder shall be held responsible should the establishment of noxious weeds began to grow on the access road and well pad. Evaluation of growth of the noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land resulting from this action, which include the roads, pads, associated pipelines and adjacent land affected by the establishment of weeds due to this action.

B. The holder shall insure that the equipment and/or vehicles that will be used to construct the access road and/or well pad are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and/or vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds and the probability that the equipment and/or vehicles are carriers of noxious weed seed from the conduct of previous projects in noxious weed infested areas, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.

## **VIII. ON LEASE - WELL REQUIREMENTS:**

A. The holder shall post signs identifying the location permitted herein with the requirements contained in Onshore Oil and Gas Order #1 and 43 CFR 3162.6.

B. The following data is required on the well sign that shall be posted in a conspicuous place on the well pad. The sign shall be kept up with current identification and shall be legible for as long as the well is in existence:



Operator Name: Chesapeake Operating Inc.  
Well Name & No.: Penjack Federal #11  
Lease No.: NM-8431  
Footage: 660' FNL & 1780' FEL  
Location: Section 12, T. 10 S., R. 25 E.

C. UPON ABANDONMENT OF THE WELL, THE SAME INFORMATION SHALL BE INSCRIBED ON THE DRY HOLE MARKER WITH A BEADED WELD.

## **WELL DRILLING REQUIREMENTS**

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D. The approval of the APD does not in any way imply or grant approval of any on-lease, off-lease, or off-unit action(s). It is the responsibility of the holder to obtain other approval(s) such as rights-of-way from the Roswell Field Office or other agencies, including private surface landowner(s).

E. All vehicles, including caterpillar track-type tractors, motor graders, off-highway trucks and any other type of motorized equipment that is used in the construction of the access road and well pad shall be confined to the area(s) herein approved. The drilling rig that is used to drill the well shall also be confined to the approved area(s).

### **F. Containment Structure Requirement:**

1. A containment structure or earthen dike shall be constructed and maintained around all storage facilities/batteries. The containment structure or earthen dike shall surround the storage facilities/batteries.
2. The containment structure or earthen dike shall be constructed two (2) feet high around the facilities/batteries (the containment structure or earthen dike can be constructed higher than the two (2) feet high minimum).
3. The perimeter of the containment structure or earthen dike can be constructed substantial larger for greater holding capacity of the contents of the largest tank.
4. The containment structure or earthen dike shall be constructed so that in case of a spill the structure can contain the entire contents of the largest tank, plus 24 hour production, within the containment structure or earthen dike, unless more stringent protective requirements are deemed necessary by the Authorized Officer.
5. Due to the close proximity of a sinkhole, a containment structure or earthen dike shall be constructed and maintained around the east, north, west, and south sides of the well pad. The containment structure or earthen dike shall be constructed two (2) feet high around the well pads outer boundaries. (the containment structure or earthen dike can be constructed higher than the two (2) feet high minimum).

### **G. Well Completion Requirement:**

If the well is completed, all areas of the well pad not necessary for operations shall be reclaimed to resemble the original contours of the surrounding terrain. Cut-and-fill slopes shall be re-contoured and reduced to a slope of 3:1 or less.

#### **H. Painting Requirement:**

All above-ground structures (e.g.: meter houses, tanks, above ground pipelines, and related appurtenance, etc.) not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for painting all the well facilities is *Slate Gray*, Munsell Soil Color Chart Number *5Y 6/1*.

### **WELL DRILLING REQUIREMENTS**

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#### **I. Fence Requirement:**

The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair impacted improvements to at least their former state. On private surface the holder shall contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates shall be allowed unless approved by the Authorized Officer.

#### **J. Open-vent Exhaust Stack Requirements:**

1. All open-vent exhaust stacks associated with heater-treater, separators and dehydrator units shall be modified to prevent birds and bats from entering them and to the extent practical to discourage perching and nesting.
2. New production equipment installed on federal leases after November 1<sup>st</sup>, 1993, shall have the open-vent exhaust stacks constructed to prevent the entry of birds and bats and to the extent practical, to discourage perching, and nesting.

### **IX. SPECIAL REQUIREMENT(S): NONE**

# EXHIBIT C

1 of 3 pages

## CONDITIONS OF APPROVAL

OPERATOR: Chesapeake Operating Inc.

LEASE NO: NM-8431

WELL NAME & NO.: Penjack Federal #11

LOCATION: Section 12 T. 10 S., R. 25 E., N.M.P.M.

QUARTER/QUARTER & FOOTAGE: NW¼NE¼ - 660' FNL & 1780' FEL

COUNTY: Chaves County, New Mexico

### GENERAL CONDITIONS OF APPROVAL:

1. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Conditions Of Approval.
2. The holder shall indemnify the United States against any liability for damage to life or property arising from occupancy or use of public land under this authorization.
3. The holder shall have surface use approval prior to any construction work on change(s) or modification(s) to the access road and/or well pad. The holder shall submit (Form 3160-5), Sundry Notice and Report On Wells, an original plus one (1) copy to the Roswell Field Office, stating the basis for any changes to previously approved plans. Prior to any revised construction the holder shall have an approved Sundry Notice and Report On Wells or written authorization to proceed with the change in plans ratified by the Authorized Officer.

#### 4. **Weed Control:**

The holder shall be responsible for weed control on disturbed areas within the limits of the site. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

## **5. Hazardous Substances:**

a. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act Of 1976, as amended (15 U.S.C. 2601, *et. seg.*) with regard to any toxic substances that are used, generated by or stored on the project/pipeline route or on facilities authorized. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally,

### **CONDITIONS OF APPROVAL**

**2 of 3 pages**

any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

b. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substances or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seg.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seg.*) on this project/pipeline (unless the release or threatened release is wholly unrelated to the holder's activity on the pipeline). This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated third parties.

## **6. Undesirable Events:**

If, during any phase of the construction, operation, maintenance, or termination of the authorization, any oil or other pollutants, should be discharged, and impacting Federal land, the control and total removal, disposal, and cleaning up of such oil or other pollutants, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal land, or to repair all damages to Federal land resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

## **7. Archaeological, Paleontology, and Historical Sites:**

a. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder shall be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

b. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently

during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of the project work, the holder shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The holder or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes. Any unauthorized collection or disturbance of cultural resources may result in a shutdown order by the Authorized Officer.

## **CONDITIONS OF APPROVAL**

**3 of 3 pages**

### **8. Sanitation:**

The holder shall be responsible for maintaining the site in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

**9. Open-top Tanks:** Any open-top tank containing oil and/or toxic fluids shall be covered with netting or equipped to prevent birds, bats, and other wildlife from entering the open-top tank.

### **10. Other:**

1. Due to the close proximity of a sinkhole, a containment structure or earthen dike shall be constructed and maintained around the east, north, west, and south sides of the well pad for the Penjack 10. The containment structure or earthen dike shall be constructed two (2) feet high around the well pads outer boundaries. (the containment structure or earthen dike can be constructed higher than the two (2) feet high minimum).

# EXHIBIT D

1 of 7 pages

## PERMANENT RESOURCE ROAD REQUIREMENTS

**Operator: Chesapeake Operating Inc.**

**BLM Serial Number: NM-8431**

**Well Name & NO: Penjack Federal #11**

**Location: Section 12, T. 10 S., R. 25 E.**

**660' FNL & 1780' FEL, Chaves County, N.M.**

The holder agrees to comply with the following requirements:

### 1. GENERAL REQUIREMENTS:

- A. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Permanent Resource Road Requirements.
- B. The holder shall minimize any disturbance to structures on public domain surface. Damages caused to any structure during road construction operations shall be promptly repaired by the holder. Functional use of any structure shall be maintained at all times. The holder shall make a documented good-faith effort to contact the owner prior to disturbing any structure.
- C. When necessary to pass through an existing fence line, the fence shall be braced on both sides of the passageway prior to cutting and the fence shall be promptly repaired to at least it's former state or to a higher standard than it was previously constructed.
- D. A professional engineer shall design the access road if the road grade exceeds 10 percent slope.

### 2. INGRESS AND EGRESS:

The access road shall be constructed to access the well pad on the **Southwest** corner of the well pad to comply with the planned access road route.

### 3. ROAD TRAVELWAY WIDTH:

The travelway of the road shall be constructed 14 feet wide. The maximum width of surface disturbance shall not exceed 30 feet of road construction. The specified travelway width is 14 feet for all road travelway surfaces unless the Authorized Officer approves a different width.

## PERMANENT RESOURCE ROAD REQUIREMENTS

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### 4. SURFACING:

Beginning from the dedicated road, the entire length of the access road travelway shall be surfaced prior to drilling operations.

**The access road travelway shall be surfaced** with caliche or gravel material. If other surfacing material is used, the new type of material shall be approved by the Authorized Officer. The travelway of the road shall be surfaced with caliche material. The caliche material shall be compacted to a minimum thickness of 6 inches for the entire length of the travelway surface on the access road. The width of surfacing shall not be less than 14 feet of travelway surface. Prior to using any mineral materials from an existing federal pit, authorization must first be obtained from the Authorized Officer.

### 5. CROWNING AND DITCHING:

Crowning with materials on site and ditching on one side of the road, on the uphill side, shall be required. The road cross section shall conform to the cross section diagrams in Figure 1 (attached page 6). Where conditions dictate, ditching is required on both sides of the road. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road).

### 6. DRAINAGE:

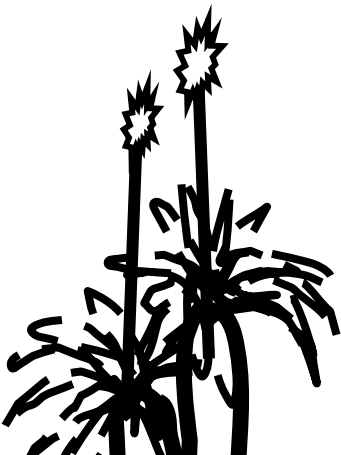
**No lead-off ditches are required for this road.**

A. Drainage control shall be ensured over the entire road through the construction of ditches, sidehill out sloping and insloping, lead-off ditches, culvert installation, and low water crossings.

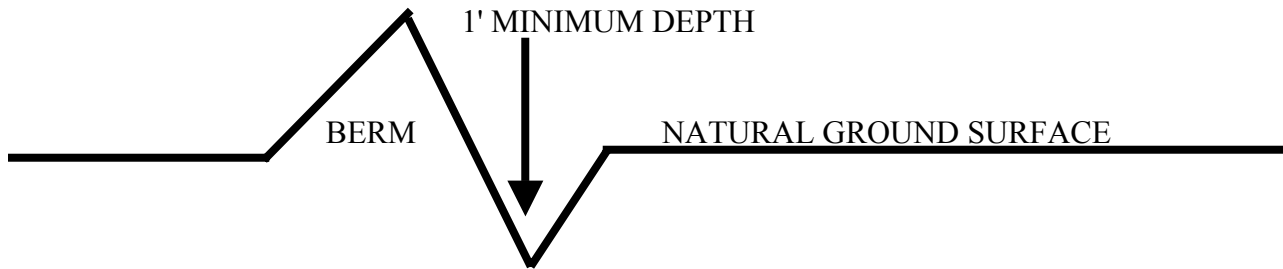
- a. All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval for lead-off ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in %):

#### PERCENT SLOPE AND SPACING INTERVALS FOR LEAD-OFF DITCHES:

Percent slope	Spacing interval
0 - 4%	150' - 350'
4 - 6%	125' - 250'
6 - 8%	100' - 200'
8 - 10%	75' - 150'



### CROSS SECTION OF TYPICAL LEAD-OFF DITCH



## PERMANENT RESOURCE ROAD REQUIREMENTS

3 of 7 pages

C. A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

D. On road slopes exceeding 2%, water flow shall drain water into an adjacent lead-off ditch. Water flow drainage location and spacing shall be determined by the following formula:

FORMULA FOR SPACING INTERVAL OF LEAD-OFF DITCHES:

$$\text{spacing interval} = \frac{400'}{\text{road slope in \%}} + 100'$$

Ex. 4% slope:    spacing interval =  $\frac{400}{4} + 100 = 200$  feet

## 7. CULVERT INSTALLATION:

### No culverts are required on this road.

Culvert pipes shall be used where ravines, arroyo gullies, and deep waterway channel flows are crossed by the access road construction route. The culvert(s) shall not be less than XX inches in diameter (minimum 18 inch culvert). The location for the culvert installation is designated on the attached map - **EXHIBIT A**. (A culvert pipe installation diagram shall be attached to this requirement when a culvert is required to be installed, see EXHIBIT - X).

## 8. TURNOUTS:

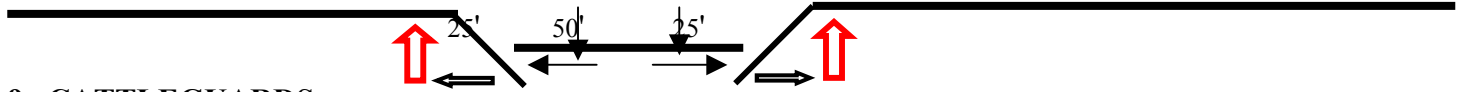
### No Turnouts Are Required On This Road.

Vehicle turnouts shall be constructed on all single lane roads (unless the Authorized Officer determines that the turnouts are not required). Turnouts shall be intervisible and shall be constructed on all blind curves with additional turnouts as needed to keep spacing below 1000 feet. Turnouts shall conform to the following diagram:

### STANDARD TURNOUT - PLAN VIEW







## 9. CATTLEGUARDS:

**NONE REQUIRED**

## PERMANENT RESOURCE ROAD REQUIREMENTS

4 of 7 pages

Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads, (exceeding H-20 loading,) are anticipated. (See BLM standard drawings for cattleguards). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user.

**A cattleguard installation diagram shall be attached to this stipulation when a cattleguard is required to be installed - see EXHIBIT X - DIAGRAM A & B).**

## 10. MAINTENANCE:

A. The holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation, culvert cleaning, cattleguard maintenance, surfacing, and weed control.

B. The holder shall cooperate with other authorized users in maintenance of the road(s). Failure of the holder to share maintenance costs in dollars, equipment, materials, and manpower proportionate to the holders use with other authorized users may be adequate grounds to terminate the road use. The determination as to whether maintenance expenditures have been withheld by the holder and the decision to terminate the road use shall be at the discretion of the Authorized Officer. Upon request, the Authorized Officer shall be provided with copies of any maintenance agreements entered into by the holder.

## 11. PUBLIC ACCESS:

A Public access on this road shall not be restricted by the holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public land shall not be locked or closed to public use unless closure is absolutely necessary and is authorized in writing by the Authorized Officer.

## 12. ROAD REHABILITATION REQUIREMENTS:

A. **The access road shall be ripped a minimum of 16 inches deep.** The surface material on the road may be removed and re-used in other approved area(s). Surfacing material left in place shall be plowed under with soil turning equipment and the plowed surface shall be disked before seeding. All culverts and other road structures shall be removed. All over-burden material shall be replaced in the cut areas, ditches, lead-off ditches, and any other excavated earthwork shall be back filled. The road shall be recontoured to as near it's original topography, as possible.

B. An earthen berm shall be constructed at the entrance of the road to prevent vehicular traffic on the reclaimed road.

C. The reclaimed road shall be seeded with the following **DPC seed mixture** (the Roswell Field Office has determined the Desired Plant Community seed mixture for the reclaimed area(s)):

**SEE EXHIBIT B - WELL DRILLING REQUIREMENTS - VI. SEEDING REQUIREMENTS -  
FOR THE DESIRED PLANT COMMUNITY SEED MIXTURE THAT SHALL BE USED ON  
THE RECLAIMED ACCESS ROAD.**

**PERMANENT RESOURCE ROAD REQUIREMENTS**

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D. The seed and any fertilizer involved shall be broadcast over the roadbed with a spreader, than harrowed to cover the seed. Use of a seed drill planter to plant is acceptable. Appropriate measures shall be taken to ensure that the seed/fertilizer mixture is evenly and uniformly applied. There shall be no primary or secondary noxious weeds in the seed mixture. In accordance with State law(s) the seed should be tested for purity and viability within nine (9) months prior to sell. Commercial seed shall be either certified or registered and the seed mixture container shall be tagged in accordance with State law(s). The seed mixture tag shall be made available to the Authorized Officer for inspection. The seeding shall be repeated until a satisfactory vegetation thicket is established and this determination shall be made by the Authorized Officer. Evaluation of plant growth will not be made before the first growing season.

E. Seeding shall be done between June 15<sup>th</sup> through September 15<sup>th</sup>. However, the holder can seed the road immediately after preparing the road bed.

F. The Authorized Officer reserves the right to require reseeding at a specific time if seed does not germinate after one (1) growing season. Waiver of this requirement would be considered if diligent attempts to revegetate the road has repeatedly failed and the Authorized Officer determines that further attempts to revegetate the road would be futile.

G. **Contact Richard G. Hill at (505) 627-0247 to witness the seeding operations two (2) days before the start of the seeding process.**

**13. SPECIAL REQUIREMENT(S): NONE**